

Trimble® R/5000 Series GPS Receivers

Release Notes

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Corporate Office

Trimble Navigation Limited
5475 Kellenburger Road
Dayton, Ohio 45424-1099
USA
800-538-7800 (toll free in USA)
+1-937-245-5600 Phone
+1-937-233-9004 Fax
www.trimble.com

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Introduction

These release notes describe those features of the Trimble® R7, Trimble R8, 5700, and 5800 GPS receivers that are not included in the *5700/5800 GPS Receiver User Guide* or the *Trimble R7/Trimble R8 GPS Receiver User Guide*.

The CD that was supplied with your Trimble R7, Trimble R8, 5700, or 5800 GPS receiver contains utilities that you can use to program or configure your receiver.

If your Trimble R7, Trimble R8, 5700, or 5800 series GPS receiver is supplied with additional Trimble firmware or software products, make sure that those products have been upgraded to the latest version. For more information about upgrading, refer to the release notes for that product.

New Features and Changes

New features

The following features in firmware version 2.10 and 2.21 for Trimble R7/5700 GPS receivers, and firmware version 2.11 and 2.21 for Trimble R8/5800 GPS receivers have changed.

Trimble R7/5700 receiver – version 2.10

- RTK improvement
 - Support for a GPRS/Internet base using a Trimble Survey Controller™ handheld device (a controller) and a GPRS-enabled cell phone.
- RTCM version 3.0 input and output

*Note – The TRIMTALK™ 450S and the TRIMMARK™ 3 (Rev A – version 1.11 or earlier) radio modems do **not** support RTCM 3.0 message broadcasting.*

Trimble R7/5700 receiver – version 2.21

- Firmware uniformity
 - Firmware for Trimble R7, Trimble R8, 5700, and 5800 merged into a single version.

Trimble R8/5800 receiver – version 2.11

- RTK improvement
 - Support for GSM dial-up using a Trimble Survey Controller handheld device (a controller) and an internal GSM module, for rover operations.

You can use an external GPRS cell phone as a base or a rover with the aid of Trimble Survey Controller.
- Ability to transmit and receive UHF corrections, with additional upgrade options for Trimble R8
- RTCM version 3.0 input and output

*Note – The TRIMTALK 450S and the TRIMMARK 3 (Rev A – version 1.11 or earlier) radio modems do **not** support RTCM 3.0 message broadcasting.*

Trimble R8/5800 receiver – version 2.21

- Firmware uniformity
 - Firmware for Trimble R7, Trimble R8, 5700, and 5800 merged into a single version.

Changed features

The following features in firmware version 2.10 and 2.21 for Trimble R7/5700 GPS receivers, and firmware version 2.11 and 2.21 for Trimble R8/5800 GPS receivers have changed.

- Improved receiver-configuration software support. Enhanced communication of receiver configuration is now available to improve the user interface of receiver configuration and control tools. The GPS Configurator™ software, for example, will now configure itself based on current receiver settings. For more information on GPS Configurator, see page 10.

Known Issues

The following issues are known at the time of release:

Trimble R7/5700 receiver

- If you are using the Data Transfer utility, and you have trouble communicating with the receiver, or you cannot read files from the receiver once it is connected, close any other software applications that are running on the computer and try again.
- If you do not use a SanDisk CompactFlash card in your receiver, you may encounter data logging and transfer problems.
- Some USB devices may stop working when they are connected to a computer for extended periods. If this occurs when you try to connect to the USB port on the receiver, disconnect the USB cable and then reconnect it.



Caution – Do not interrupt the process when transferring data through a USB port or the serial port USB. If the process is interrupted, the office computer may stop responding.

- If you are using the Microsoft Windows® 2000 operating system, stop the receiver using the *Unplug and Eject Hardware* dialog **before** you disconnect the USB cable. Use the dialog that is on the task bar whenever the receiver is connected.

Trimble R8/5800 receiver

- If you are using an ACU Controller or a TSCe™ controller with BlueCap® module, use the Bluetooth® wireless connection between the receiver and the controller mainly to control an RTK survey. To log raw GPS data for in-fill or for a static/fast static survey, Trimble recommends that you use a cable to connect the receiver to the controller. Although the Bluetooth wireless connection supports logging data to a controller, the cable connection provides greater security and is less likely to result in loss of data.
- Trimble recommends that you change the receiver internal battery when the Low Battery message appears on the controller, or when a low battery is indicated by the receiver power LED. Do not wait until the battery is completely discharged and the receiver stops operating. Otherwise, you may not be able to reconnect the receiver over the Bluetooth wireless link. (If this situation does occur, reset the receiver in order to re-establish Bluetooth communication.)
- Before you start a survey in which you will log data to a controller, Trimble recommends that you turn on the receiver and allow enough time for it to acquire a current time, ephemeris and almanac, and to start tracking satellites.
- In Trimble R7/5700 firmware version 2.10 and Trimble R8/5800 firmware version 2.11, the radio mode is retained when you reset the receiver. Once you reset the receiver, confirm that it is in the correct radio mode.

Registering the receiver

Trimble recommends that you register your Trimble R7, Trimble R8, 5700 or 5800 series GPS receiver to protect your investment and to ensure that the system is always up to date. If you register the receiver, you will be notified by e-mail when there are updates to the receiver firmware, or when new functionality becomes available.

To register the receiver:

1. Run the *Trimble R7, Trimble R8, 5700, and 5800 GPS Receivers CD*.
2. From the main menu, select *Register your receiver*.
3. Do one of the following:
 - To register online, select *Register using the Internet*. The online registration form opens in your default web browser. Fill in the required fields, and then click **Submit** to submit the completed form.
 - To register by mail, select *Register using mail*. The registration form opens in the Microsoft® WordPad editor. Fill in the required fields, print the form, and then mail it to the address shown at the bottom of the form.

Upgrade Procedure

The following sections describe the software upgrades and utilities that are provided on the *Trimble R7, Trimble R8, 5700, and 5800 GPS Receivers CD*.

Trimble recommends that you download and backup any files that are on the receiver **before** performing a firmware update.

Installing the firmware

Before you can use your Trimble R7, Trimble R8, 5700, or 5800 series GPS receiver with Trimble office software, such as Trimble Geomatics Office™, Trimble Total Control™, or Terramodel® software, you must install or update the following files:

- The Trimble R7, Trimble R8, 5700, and 5800 Series GPS Receiver Device Driver for Data Transfer
 - This file is essential to transferring files from the CompactFlash card or the receiver internal memory to the PC, using the USB and serial ports or a Bluetooth wireless connection.
- Configuration files
 - These files provide the latest list of antennas and receivers that are recognized by Trimble software. They also ensure that antenna and receiver information flows correctly from the receiver to the Trimble Survey Controller software and to the office software.
- The WinFlash utility
 - Use this utility to configure the GPS receiver internal radio, to upgrade receiver firmware, and to retrieve receiver configuration information.

To install or update these files:

1. Run the *Trimble R7, Trimble R8, 5700, and 5800 GPS Receivers CD*.
2. From the main menu, select *Install Components for TGO / TTC / Terramodel*.
3. Follow the instructions supplied by the installation wizard.

Note – You must also install the latest version of the software or firmware for any other Trimble product that you will use with the Trimble R7, Trimble R8, 5700, or 5800 series receiver (for example, the Trimble Survey Controller software.)

Software compatibility

The Trimble R7, Trimble R8, 5700, and 5800 GPS receivers are compatible with the following software:

- Trimble Geomatics Office version 1.6 or later
- Trimble Survey Controller version 7.71 or later

Note – *Trimble Survey Controller 7.72 or earlier is **not** compatible with the Trimble R7 or Trimble R8*

- TRS™ (Trimble Reference Station) version 1.03 or later
- Trimble Total Control version 2.5 or later

GPS Configurator software

Use the GPS Configurator software to configure the receiver when it is connected to the office computer. You can also use this software to view the current receiver settings, check GPS information, change receiver settings in real time, and save and transfer configuration files. Use the GPS Configurator software with a Trimble 5700, 5800, Trimble R7, Trimble R8, or MS750™ receiver. You may not be able to use the software to configure some older model receivers, such as a 4600 LS™ receiver, or a 4000 series receiver.



Caution – When you connect the office computer to the receiver using the GPS Configurator, all outputs on the port you connect to are disabled.

Installing the GPS Configurator software

The GPS Configurator software is supplied on the *Trimble R7, Trimble R8, 5700, and 5800 GPS Receivers CD*. You can install the software on any number of computers.

To install the software:

1. Run the CD.
2. From the main menu, select *Install individual software packages*.

3. From the menu that appears, select *GPS Configurator*.
4. Follow the instructions supplied by the installation wizard.



Caution – You can only select the internal radio as an output port for CMR™ or RTCM corrections once the operating mode for the internal radio is set for Base.

WinFlash software

The WinFlash software that is supplied on the *Trimble R7, Trimble R8, 5700, and 5800 GPS Receivers CD* communicates with Trimble products and enables them to perform functions that include:

- installing/updating receiver and radio firmware
- upgrading receiver options
- retrieving receiver configuration
- configuring the internal radio and adding receive frequencies
- configuring the Bluetooth ID string to help identify the receiver when it is connected using Bluetooth

Note – You **cannot** use this version of the WinFlash software to configure a GPS Total Station® 4700 or a 4800 internal radio.

Installing the WinFlash software

If you have already run the *Install essential software* option from the *Trimble R7, Trimble R8, 5700, and 5800 GPS Receivers CD*, WinFlash is installed on the computer.

Note – You can install WinFlash on as many computers as required. The version of WinFlash on the *Trimble R7, Trimble R8, 5700, and 5800 GPS Receivers CD* is fully compatible with other copies of WinFlash that you may have for other Trimble products. Installing WinFlash from this CD will not disrupt operation with other Trimble devices.

To install the WinFlash software on another office computer, or to install reinstall WinFlash without installing other software:

1. Run the *Trimble R7, Trimble R8, 5700, and 5800 Receivers CD*.
2. From the main menu, select *Install individual software packages*. A menu appears.
3. Select *WinFlash vX.XX for Trimble R/5000 Series Receivers*.
4. Follow the instructions supplied by the installation wizard.

The Trimble Data Transfer utility

Use the Trimble Data Transfer utility to transfer data between a variety of data collection devices and an office computer.

Installing the Data Transfer utility

If you have already run the *Install essential software* option from the *Trimble R7, Trimble R8, 5700, and 5800 GPS Receivers CD*, the Data Transfer utility is installed on the computer.

Note – You can install the Data Transfer utility on any number of computers.

To install the Data Transfer utility on another office computer, or to reinstall it without installing other software:

1. Run the CD.
2. From the main menu, select *Install individual software packages*.
3. From the menu that appears, select *Data Transfer vX.XX*.
4. Follow the instructions supplied by the installation wizard.

Using the Data Transfer utility to connect to the receiver

Connect the Data Transfer utility to a GPS Receiver (Trimble R/5000 Series) default device, or create a new GPS Receiver (Trimble R/5000 Series) device definition. You cannot use a device definition for another type of receiver. For more information about creating a new device, refer to the Data Transfer Help.

Trimble Reference Station software

You can use the Trimble R7 or 5700 receiver to log reference station data to the TRS (Trimble Reference Station) software, version 1.04. An upgrade program for this software is supplied on the *Trimble R7, Trimble R8, 5700, and 5800 GPS Receivers CD*.

Note – The upgrade program on the CD does not perform a complete installation of the TRS software. It only upgrades from an earlier version. You must have the TRS software version 1.02 or earlier already installed on the computer.

To run the upgrade program:

1. In the TRS software, stop logging manually.
2. Disconnect from any GPS receiver.
3. Exit the TRS client software.
4. Run the *Trimble R7, Trimble R8, 5700, and 5800 GPS Receivers CD*.
5. From the main menu, select *Install individual software packages*.
6. From the menu that appears, select *TRS v1.04*.
7. Follow the instructions supplied by the installation wizard.

Once the installation is completed, start the TRS software, reconnect to the receiver(s) you want to log data to, and resume logging.

Using a USB with the receiver

This section describes how to use a USB with a Microsoft Windows operating system.

Windows 2000 operating system

When a Trimble R7 or 5700 receiver is connected to a USB port on a computer, the receiver is treated as a peripheral device of the computer.

Note – If you are using the Windows 2000 operating system, you must complete the following steps to stop a peripheral USB device, before you physically disconnect or turn off the device.

To stop a peripheral device, such as the receiver:

1. Right-click the Unplug or Eject Hardware icon on the computer task bar.
2. From the menu that appears, select *Unplug or eject hardware*. The *Unplug and Eject Hardware* dialog appears.
3. From the *Hardware devices* list, select Trimble USB GPS. Click **Stop**.
4. The *Stop a Hardware device* dialog appears. Click **Stop** again to confirm that you want to stop the receiver. A message confirms that it is safe to remove or disconnect the receiver.
5. Click **OK** to close the message, and then click **Close** to close the *Unplug or Eject Hardware* dialog.

You can now switch off the receiver and disconnect it from the computer.

Alternatively, to stop the receiver:

1. Click the Unplug or Eject Hardware icon.
2. Select Stop Trimble USB GPS from the menu that appears. The receiver stops immediately, and the confirmation message appears.
3. Click **OK** to close the message, and then click **Close** to close the *Unplug or Eject Hardware* dialog.

Windows 98 or Me operating systems

The USB driver for the Trimble R7 or 5700 receiver is installed on the office computer when you install the Data Transfer utility.

Therefore, if you connect the receiver to an office computer running the Windows 98 or Windows Me operating system before you install Data Transfer, the system cannot find a driver for the receiver and you cannot connect to the receiver using its USB port.

***Note** – Always install the Data Transfer utility before you connect the computer to the receiver. For more information, see *The Trimble Data Transfer utility*, page 12. Until you do this, you cannot use the USB port to connect the receiver to the office computer.*

If you cannot connect the office computer to the receiver using a USB, do the following:

1. If the *Add New Hardware* dialog appears, click **Cancel** to cancel the Add New Hardware wizard.
2. Install the Data Transfer utility.
3. From the *Start* menu, select *Settings / Control Panel*.
4. Double-click the System icon.
5. In the *System Properties* dialog, select the *Device Manager* tab.
6. Highlight Other or Unknown Trimble device, then do one of the following:
 - Click **Remove** to delete this device.
 - Click **Properties**, and then click **Update Driver**. Follow the instructions to update the driver for this device. Use the file *Trmbusb.inf* in the folder *Windows\Inf*.
7. Disconnect the USB cable, and then reconnect it.
8. If the device driver does not install automatically, restart the computer.

Using a CompactFlash Card

Always format a CompactFlash card in the receiver. This prevents data on the card from being corrupted if you remove the card while the receiver is logging data to it.

Trimble recommends that you use only a SanDisk industrial grade CompactFlash card in the Trimble R7 or 5700 receiver. Other disks can cause the following problems:

- When the receiver is logging data at 10 Hz, records could be written out of sequence to the data file.
- When you are transferring files to the office computer using a USB connection, the connection could time out. If this happens, do one of the following:
 - Connect the receiver to the computer using one of the receiver serial (COM) ports.
 - Insert a CompactFlash card directly into the computer using a CompactFlash reader.

If you use a CompactFlash card reader connected directly to the office computer, and if you write files to the CompactFlash card using the reader, make sure that you correctly eject the card before you remove it from the office computer.